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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,941	05/25/2001	Qian Zhang	MS1-589US	6647

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LEE & HAYES PLLC
421 W RIVERSIDE AVENUE SUITE 500
SPOKANE, WA 99201

EXAMINER	
BROWN, RUEBEN M	
ART UNIT	**PAPER NUMBER**
2611	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/865,941	ZHANG ET AL.	
	Examiner	Art Unit	
	Reuben M. Brown	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18,33 and 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-3,7,10,13,14,16-18,33 and 34* is/are rejected.

7)☐ Claim(s) *4-6, 8-9, 11-12 & 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalitie(s):

In paragraph 41, line 4 of the specification, reference number "222" incorrectly refers to the MSFTP module in the client device. This reference number should be changed to "232", as shown in Fig. 2 of the drawings.

Applicant is reminded to review the specification for any other minor informalities. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 7, 10, 13, 14, 16-18 & 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aharoni, (U.S. Pat # 6,014,694), in view of Gilbert, (U.S. Pat # 6,771,595).

Considering claim 1, the claimed method for transmitting a mixed media data stream in packets, including audio & video objects, between a sender and a receiver through a connection over a network, comprising:

'monitoring, at a receiver, transmission characteristics of the connection between the server and the receiver', is met by the discussion Aharoni, of transmitting packets through the network connection and measuring the rate of reception of the packets at the client, see col. 13, lines 10-40.

'estimating available bandwidth at the sender based upon the transmission characteristics of the connection monitored at he receiver', is met by col. 13, lines 30-35 & col. 14, lines 34-67.

As for the additionally claimed feature of; 'allocating a global buffer fro the mixed data stream as a function of the estimated bandwidth', Aharoni teaches that as a result of the estimated bandwidth, the server changes various parameters of the transmission protocol, but does not specifically state that the buffer may also be changed. Nevertheless Gilbert, which is in the same field of endeavor (col. 1, lines 10-30 & col. 2, lines 29-45) teaches monitoring traffic patterns on a network, and as a result of the monitored traffic patterns, adjusting the size of the TX buffer memory, Abstract; col. 3, lines 1-67 thru col. 4, lines 1-11. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Aharoni with the feature of adjusting the transmit buffer, based upon network traffic patterns, for

improvement of more effectively managing the network resources, as taught by Gilbert, col. 1, lines 45-67.

'pre-encoding a portion of each video object plane (VOP) in the global buffer with respect o a quantization parameter (QP)' and 'encoding the VOP in the global buffer based on the QP', is broad enough to read on the discussion in Aharoni that as the network bandwidth changes, the quality of transmitted video may also change. In other words, as the bandwidth increase, it is possible to increase the quality, col. 2, lines 10-27; col. 7, lines 1-42 & col. 8, lines 1-10. Therefore the adjusting image quality in Aharoni, corresponds with the claimed QP.

Regarding, 'updating a rate distortion model based upon the QP', Aharoni teaches that the level of compression is changed as a result of the change in the transmitted image quality, which reads on the claimed subject matter, see col. 11, lines 65-67 thru col. 12, lines 1-45.

Regarding, 'updating a rate distortion model, based upon packet rate loss', Aharoni teaches that that quality of transmission is changed, with respect to the rate of packets loss through the network, see col. 17, lines 51-67.

'performing a frame skipping function after encoding the VOP', is met by Aharoni, col. 12, lines 49-55.

'transmitting from the sender to the receiver the encoded VOP in the global buffer at a regulated sender transmission rate, as a function of the estimated bandwidth', is met by Aharoni, col. 3, lines 28-61; col. 7, lines 35-50; col. 11, lines 25-45 & col. 12, lines 56-67.

Considering claims 2 & 17, Aharoni discloses that the client includes a decoder for decoding the transmitted video. As for the claimed multiplexing/demultiplexing into audio and video streams; Aharoni teaches the use of at least MPEG-2 & MPEG-4, (col. 6, lines 35-60 & col. 8, lines 44-67) which by convention, multiplexes audio/video data, encoding them separately. Thus the claimed demultiplexing feature is necessarily included in Aharoni.

Considering claim 3, Aharoni teaches that the quality of the video is adjusted; see col. 11, lines 25-45, which reads on the claimed subject matter.

Considering claim 7, Aharoni meets all subject matter, see col. 13, lines 35-67 thru col. 14, lines 1-67 & col. 15, lines 8-55.

Considering claim 10, Official Notice is taken that the Gilbert model was well known in the art at the time the invention was made. It would have been obvious for one of ordinary skill in the art at the time the invention was made, to modify Aharoni with the Gilbert model, for the desirable improvement of more efficiently estimating the loss of packets.

Considering claims 13 & 18, Aharoni teaches that the invention operates using a server/computer, col. 19, lines 1-9, and thus utilizes computer executable instructions.

Considering claim 14, the claimed method for transmitting a mixed media data stream, comprises steps that substantially correspond with subject matter mentioned above in the rejection of claim 1, and is therefore likewise treated.

Considering claim 16, the claimed output target rate is broad enough to read on the data rate that is adjusted, based on the bandwidth in Aharoni, col. 11, lines 30-45; col. 12, lines 57-67.

Considering claims 33-34, Aharoni teaches that the invention operates using a computer, (col. 2, lines 10-35; col. 6, lines 35-55 & col. 19, lines 1-9) and thus requires the use of computer-readable media. Thus the claimed method elements substantially correspond with subject matter mentioned above in the rejection of claims 1 & 14, and are likewise treated.

Allowable Subject Matter

4. Claims 4-6, 8-9, 11-12 & 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A) Packer Teaches a flow rate detection system and adjusting the bandwidth of channels, over a TCP network.

B) Watt Teaches adjusting the transmission rate of packets, base don the congestion on the network.

Any response to this action should be mailed to:

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or faxed to:
(571) 273-8300, (for formal communications intended for entry)
Or:
(571) 273-7290 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Reuben M. Brown whose telephone number is (571) 272-7290. The examiner can normally be reached on M-F (9:00-6:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (571) 272-7294. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300 for regular communications and After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Reuben M. Brown

REUBEN M. BROWN
PATENT EXAMINER